



An EPA Update on Activities
at the UNC Superfund Site
May 1990

UNC SITE UPDATE

United Nuclear Corporation (UNC) has completed the first year of remedial activities at the UNC site in McKinley County, New Mexico. In 1989, UNC installed ground water extraction wells in the Zone 3 Upper Gallup aquifer and the Southwest Alluvial Aquifer (see Figure 1). Limited ground water extraction activities continued in the Zone 1 Upper Gallup Aquifer. Surface reclamation activities completed in 1989 included regrading and placement of an interim cover over the north cell in the tailings disposal area.

IN THIS ISSUE:

- o a summary of 1989 activities,
- o an evaluation of these activities,
- o an outline of 1990 activities,
- o a history of the UNC site,
- o how to obtain more information.

FIRST YEAR ACTIVITIES COMPLETE

With oversight by EPA and the Nuclear Regulatory Commission (NRC), UNC began to implement the remedy in 1989. In Zone 3 of the Upper Gallup Aquifer, pumping began for six existing wells and twelve new extraction wells located northeast of the north cell in the tailings disposal area. Water levels and quality were monitored on a quarterly basis.

Remedial actions in Zone 1 of the Upper Gallup Aquifer included pumping from wells east and north of Borrow Pit No. 2 until the borrow pit was dry. Borrow Pit No. 2. was viewed as the major source of tailings that were seeping into Zone 1.

The activities performed by UNC in 1989 in the Southwest Alluvial Aquifer included the installation and operation of ground water extraction and monitoring wells southwest of the south cell of the tailings disposal area (see Figure 1). The extracted ground water was then pumped into the evaporation disposal system for treatment.

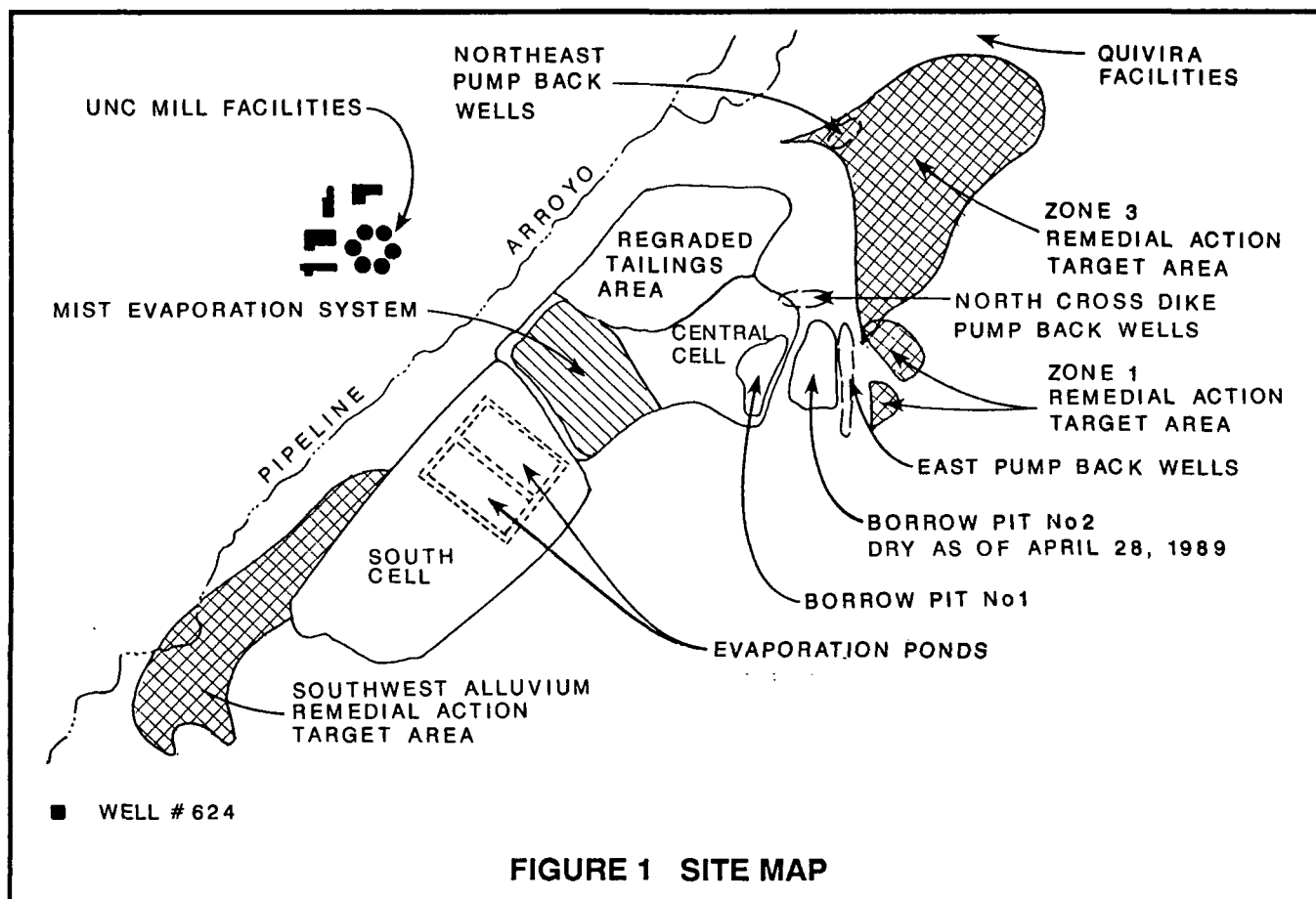
The enhanced mister/pond evaporation disposal system (see Figure 2), which consists of two, five-acre, lined evaporation ponds equipped with an evaporation mist system and a separate spray evaporation/mist system on the tailings surface, was completed and began operating in summer 1989. Water disposed in the evaporation system consisted of water stored in Borrow Pit No. 2 and from wells north and east of the pit. Continued use of the evaporation system is anticipated for 1990.

In-addition to ground water activities, surface reclamation related to tailings source control was initiated in May of 1989. Tailings reclamation activities completed in 1989 included regrading and the placement of an interim soil cover in the north cell of the tailings disposal area. Surface reclamation activities are supervised by the NRC and are projected to continue until 1997.



196033





EVALUATION OF ACTIVITIES

Quarterly performance monitoring was performed by UNC as required by the NRC License and the EPA Administrative Order. The data collected were used to evaluate remedy performance based on information submitted in the December 1989 Ground Water Corrective Action Report. Representatives from EPA, NRC, New Mexico Environmental Improvement Division, and Navajo Superfund office reviewed the 1989 Ground Water Corrective Action Report. Based on the review of the first year of remedy performance, the following recommendations were made to further optimize remedial actions at the UNC site:

- o Zone 3 of the Upper Gallup Aquifer: UNC should continue with ground water extraction and evaporation as planned. Recommendations concerning the installation of Phase II extraction wells will be provided following review of the 1990 remedy performance data.

- o Zone 1 of the Upper Gallup Aquifer: UNC should provide a proposal to address conditions of rising water levels and deteriorating water quality east and northeast of Borrow Pit No. 2., which was

determined from the ground water monitoring data.

- o Southwest Alluvial Aquifer: UNC should install additional pressure detectors and ground water monitoring wells southwest (downgradient) of existing well No. 624 to better evaluate the extent of seepage.

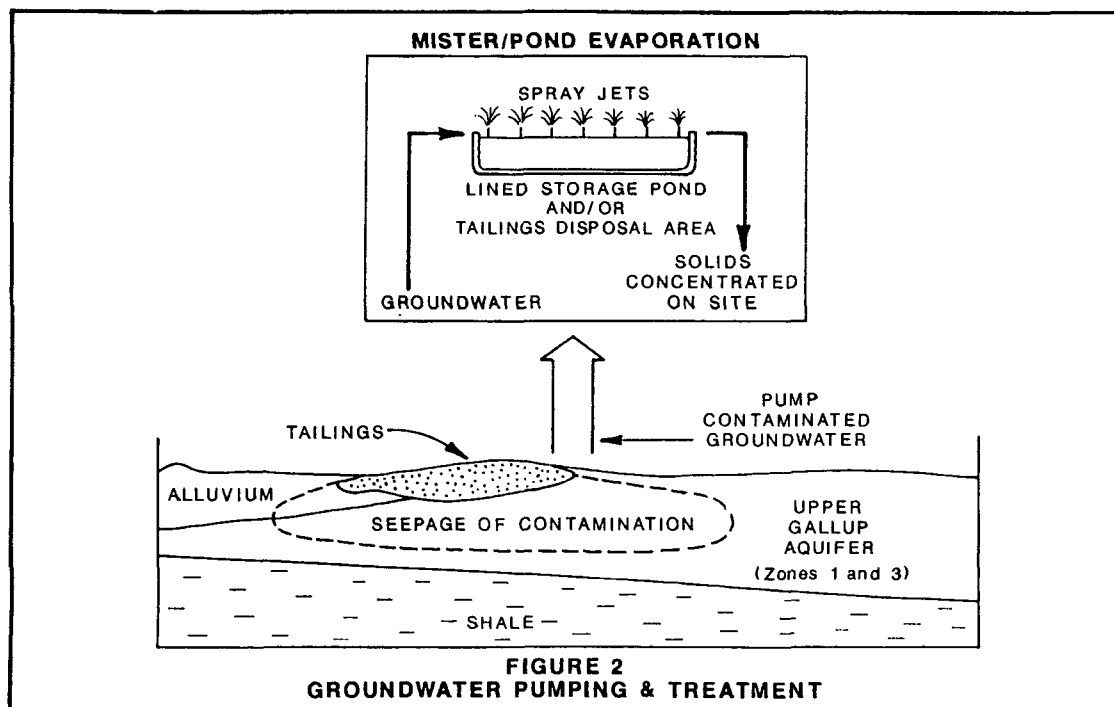


ANTICIPATED ACTIVITIES - 1990

Ground water monitoring of the three aquifers will be continued in order to evaluate the performance of the remedial action.

Surface reclamation activities projected for completion in 1990 include: dismantling of the central cell mist evaporation system and construction of the central cell spray evaporation.

Following the second year of remedial system operation, UNC will submit a 1990 Ground Water Corrective Action Report to the EPA and NRC for review. If necessary, further modifications to remedial actions will be recommended following review of the 1990 performance monitoring data.



FOR MORE INFORMATION

If you would like to find out more about remedial activities underway at the UNC Superfund Site, copies of the ROD, study reports and other information about remedial activities are available for review at the EPA office in Dallas, TX, and:

Gallup Public Library
115 West Hill Avenue
Gallup, NM

Navajo Nation
Division of Resources
Window Rock, AZ

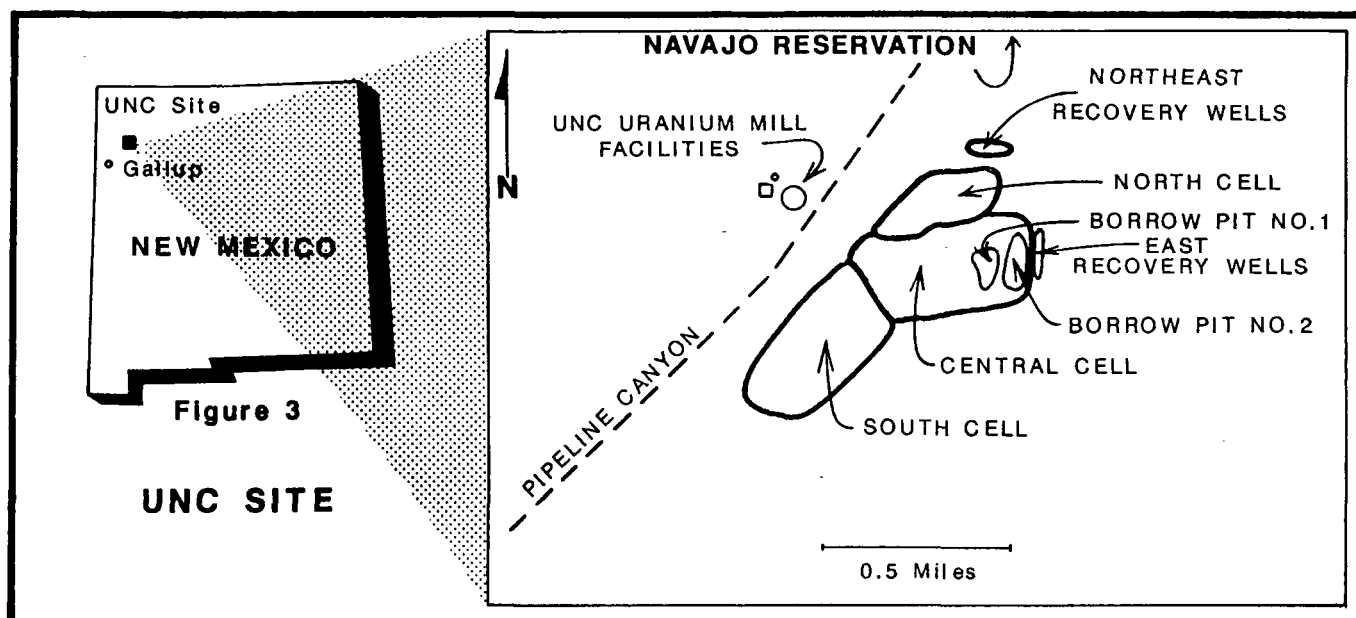
NM Environmental Improvement Division
1190 St. Francis Street
Santa Fe, NM 87501

If you have questions or would like more information about the UNC site, please call or write to:

Mr. Shannon Doss
Community Relations Manager
U.S. EPA Region 6 (6H-MC)
1445 Ross Avenue, Dallas, TX 75202
214/655-2240

Dr. William Rowe
Remedial Project Manager
U.S. EPA Region 6 (6H-EO)
1445 Ross Avenue, Dallas, TX 75202
214/655-6730

Media inquiries should be addressed to Roger Meachan, Press Officer, for EPA Region 6, at 214/655-2200.



SITE HISTORY

The UNC site is located in McKinley County, New Mexico, approximately 17 miles northeast of Gallup. The site consists of a uranium mill complex and tailings disposal area, both located approximately one mile south of the Navajo Indian Reservation. The mill and associated tailings disposal area are situated in Pipeline Canyon and cover an area of about 125 acres.

The UNC uranium mill operated from mid-1977 to mid-1982 and extracted uranium from the ore using an acid leach process that produced a wet, acidic waste, commonly known as tailings. The disposal of tailings at the UNC site resulted in seepage of tailings liquids from unlined ponds into three underlying aquifers: the southwest alluvial aquifer, the Upper Gallup Zone 3 aquifer, and the Upper Gallup Zone 1 aquifer. In addition, water discharged from the northeast Churchrock mine (north of the UNC site) percolated into the ground, adding water to the Alluvial and Upper Gallup aquifers, which underlie much of the site.

On July 16, 1979, a dam at one of the tailings ponds at the UNC site broke, releasing over 90 million gallons of tailings liquid into Pipeline Canyon Arroyo and the Rio Puerco. The dam was repaired shortly after the release.

After the mill was placed on the National Priorities List (NPL), a Remedial Investigation and a Feasibility Study were completed.

Methods to contain and treat the ground water contaminated with heavy metal, radionuclides, and other chemical constituents were evaluated by the EPA on the basis of technical feasibility, effects on health and the environment, and cost effectiveness.

In August 1988, EPA and the NRC signed a Memorandum of Understanding (MOU). The MOU required UNC to disassemble the mill, remove contaminated ground water, reclaim the tailings disposal area, and to treat contaminated ground water outside the disposal area.

After receiving public comment in September 1988, EPA selected the remedy as: Ground water Pumping and Treatment in Zone 3 of the Upper Gallup Aquifer and the Southwest Alluvial Aquifer with Limited Action in Zone 1 of the Upper Gallup Aquifer.

In June 1989, EPA issued an Administrative Order requiring UNC to implement the selected remedy. UNC agreed to comply with the Administrative Order in July 1989. Prior to this, NRC approved UNC's Reclamation Plan, which required installation of a thick cap over the tailings disposal area, mill decommissioning, control of surface water runoff, and extraction and evaporation of contaminated ground water.

U.S. Environmental Protection Agency
REGION 6
SUPERFUND BRANCH (6H-MC)
1445 ROSS AVENUE
DALLAS, TEXAS 75202